VALSIK, A.; and others.

Ossification of carpal bones and its relation to height, wright, and dentition.
p. 333

Vol. 10, no. 3, 1955
BIOLOGIA
Bratislava, Czechoslovakia

So: Eastern European Accession Vol. 5, No. 4, April 1956

CZECHOSLOVAKIA / Farm Animals. Dogs. Q

Abs Jour : Ref Zhur - Biologiya, No 5, 1959, No. 21275

Author : Valsik, Antonin
Inst : Not given
Title : Do Blood Groups Exist in Dogs?

Orig Pub : Kynologié, 1958, 3, No 3, 55-56

Abstract : Pointing to the correlation of blood groups in man and in dogs, the author presents a short survey of the system of blood groups in man. Various systems and experiments pertaining to the determination of groups and subgroups in dogs blood are presented. The experiments by the Soviet scientist Tsvetkov (who defined groups II, III, IV and V and 14 subgroups of the blood of dogs) are described. The studies of the Young collective (on the existence of A, B, C, D, E factors and their varied combinations) are interpreted.

Card 1/2

VAISIK, J.A.

Medical care in school in socialist towns in the Ostrava region. Pediat. listy, Praha 7 no.5:302-303 Sept-Oct 1952. (CLML 23:4)

VALSIK, J.A., Doc. Dr

Corporal development of adolescents in Brno. I. Development of 14 and 15-year olds. Lek. listy 9 no.13:305-307 Jl '54.

1. Em. vedouci lekar SZS, MUNZ, Brno.
(ADOLESCENCE,
*body weight & body height of adolescents in Czech.)
(BODY, WEIGHT,
*of adolescents in Czech.)
(BODY HEIGHT,
*of adolescents in Czech.)

VALSIK, Jindrich A.; DOLEZEL, Svatopluk; BUHYSKA, Jan

Relation of ossification of the bones of the wrist to body height, body weight and dentition. Biologia, Bratisl 10 no.3:333-345 '55.

1. Antropologicky ustav Univerzity Komenskeho v Bratislave a Anatomicky ustav Marsarykovy unversity v Brne.

(WRIST, anatomy and histology,
relation of ossification to body height & weight & dentition)
(BODY HEIGHT,
relation of ossification of wrist)
(BODY WEIGHT,
relation of ossification of wrist)
(TEETH,
relation of wrist ossification to dentition)

EXCERPTA MEDICA Sec 10 Vol.9/10 Obstetrics Oct 56

1856. VALŠÍK J.A. Antropol. Úst. Přírodovědecké Fak. Univ. Komenského, Bratislava. *Prostřední věk při menarche brněnských školních odrostenek r. 1953. The average age for the menarche of girls attending the schools of Brno in 1953 BRATISLAVSKÉ LÉKARS. LISTY 1955, 35(II)/10 (598-603) Graphs 2 Tables 2

The average age was fixed on the basis of the results of researches having as their aim the age of the menarche. They were carried out in 1,567 women students in 1953. The average age was 13 yr., 5 1/2 months. The method of extrapolation, recommended by Grimm, is not suitable for an evaluation of this kind, as, in our case, it gave too low values. The deductions from the facts thus obtained are therefore problematical and should be verified.

SITAJ, S.; ZITNAN, D.; TRNAVSKA, Z.; VALSIK, J.

Study on familial outbreaks of alkaptonuria and articular chondrocalcinosis. Bratisl. Lek. Listy 42 no.3:129-135 '62.

1. Z Vyskumneho ustavu reumatickych chorob v Piestanoch, veduci doc. MUDr. S. Sitaj, a z Katedry antropologie a genetiky Prirodovedeckej fakulty Univerzity Komenskeho, veduci prof. J. Valsik.
(ALKAPTONURIA) (JOINT DISEASES) (CARTILAGE)
(CALCINOSIS)

CZECHOSLOVAKIA
September 1963

VALSIK, Jindrich A.

Prof, Dr, founder of Czechoslovak anthropology and genetics; head, Department of Anthropology and Genetics at the Faculty of Natural Sciences of Komensky University in Bratislava, celebrated his 60th birthday.

Born in Prague, received his M.D. degree at Charles University in 1927, and the doctorate in natural sciences in the field of anthropology in 1930. Worked as a physician, but published a number of scientific works for which he was awarded venia docendi in 1937. In 1949 became head of the

Pravda, Bratislava, 7 Sep 63, p 4.

CZECHOSLOVAKIA
September 1963

VALSIK, Jindrich A.

Anthropological Institute in Brno, while still working as a physician in the health service.

Took active part in a number of anthropological congresses home and abroad. Is member of the Czechoslovak Biological Society, chairman of the Czechoslovak Anthropological Society, and deputy chairman of the Slovak Zoological Society. Also a member of the Royal Anthropological Institute, member of the permanent committee of the International Congress of Anthropological and Ethnological Sciences in London, and deputy chairman of the national committee of the Union International des Siences Anthropologiques et Ethnografiques. /A photo is given./

Pravda, Bratislava, 7 Sep 63, p 4.
(page 2 of 2)

(1)

VALSIK, J. A.

Seventh Conference of Czechoslovak Anthropologists. Vestnik CSAV 73 no. 1: 120-121 '64.

VAL'SKAYA, B. A.

Russia - Description and Travel

Economic geographical study of Russia by the statistical division of the Ministry of Interior during 1835-1852. Vop. geog., 27, 1951.

9. Monthly List of Russian Accessions, Library of Congress, April 1952 1953. Unclassified.

VAL'SKAYA, E.A.

First attempts of the Geographical Society to describe Russia.
Vop.geog. 31:132-142 '53. (MLRA 7:6)
(Geography)

VAL'SKAYA, Blyuma Abramovna; VAZHENIN, K.A., redaktor; KOSHELEVA, S.M., tekhnicheskiy redaktor

[Travels of Egor Petrovich Kovalevskii] Puteshestviia Egora Petrovicha Kovalevskogo. Moskva, Gos. izd-vo geogr. lit-ry, 1956. 199 p. (MLRA 10:3)
(Kovalevskii, Egor Petrovich, 1811-1868)

VAL'SKAYA, B.A.

[Contribution of the Russian Geographical Society to the study of eastern countries] Vklad Russkogo Geograficheskogo obshchestva v izuchenie stran Vostoka. Moskva, Izd-vo vostochnoi lit-ry, 1960. 10 p. (MIRA 14:6)
(Geographical societies) (Asia—Scientific expeditions)

VAL'SKAYA, B.A.

Andrei Argentov's journey to northeastern Siberia in 1851. Strany i nar. Vost. no.2:172-187 '61. (MIRA 15:3)
(Siberia, Eastern--Description and travel) (Chukchi)
(Argentov, Andrei)

VAL'SKAYA, B.A.

Unpublished materials of K.M.Baer on the travels of E.P.Kovalevskii to China in 1849-1850. Mat. Vost. kom. Geog. ob-va SSSR no.1:29-33 '62. (MIRA 16:9)

L 5069-66 EWT(m)/EWA(h) DM

ACC NR: AP5022641 UR/0089/65/019/002/0186/0188 32
539.173 28 B

AUTHOR: Popeko, L. A.; Val'skiy, G. V.; Kaminker, D. M.; Petrov, G. A.

TITLE: Delayed gamma radiation in U235 fission

SOURCE: Atomnaya energiya, v. 19, no. 2, 1965, 186-188

TOPIC TAGS: gamma radiation, nuclear fission, nuclear physics apparatus

ABSTRACT: The delayed gamma radiation from fission fragments was investigated for time intervals of 10 to 70 nano-sec and energy levels from 30 to 500 kev. Approximately, 200 mkg of U235 were used to form a 8-cm target spot of 20 mkg/sq cm density on a Al_2O_3 backing. The target was placed in a vacuum chamber traversed by a neutron beam from VVR-M reactor. A silicon detector was placed at a 58 mm distance above the target to check the fission fragments. Energy resolution of the scientillation spectrometer for Cs137 line was 10%. The fragments heading toward the detector could be absorbed by a movable 4 mg/sq cm aluminum curtain interposed at a distance of 15 mm from the target. The delayed gamma rays were measured when the curtain was open while the background measurements were made with the closed curtain. The results

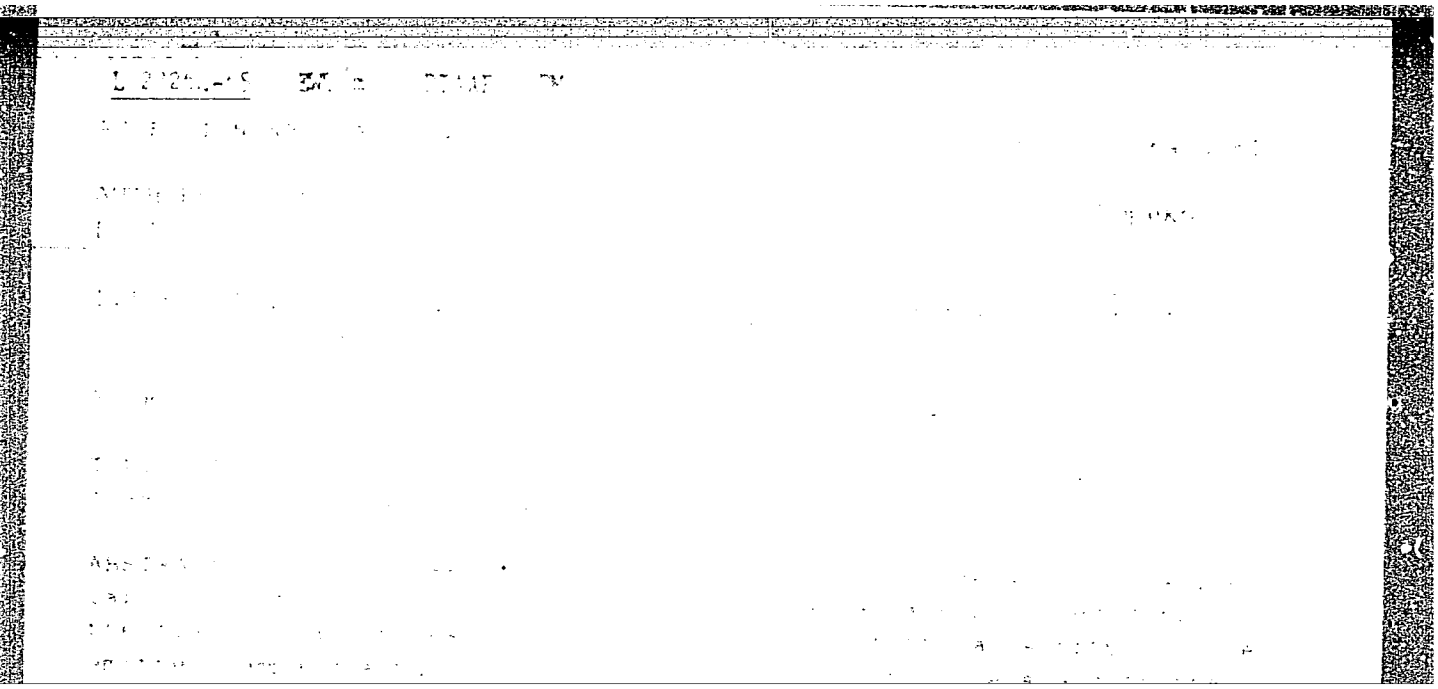
Card 1/2

of measurements were illustrated by two curves showing the distribution in time of pulse coincidences for both open and closed curtain positions. The average half-life was 28 nsec for heavy fragment groups and 35 nsec for light fragments. The amplitude distribution of fragment pulses without coincidence was also graphically plotted as well as the spectra of delayed gamma rays. A table gives the data on the energy and yield of delayed gamma quanta. The measuring device arrangement is schematically outlined. The authors express their gratitude to A. I. Yegorov (preparation of target), V. F. Afanas'yev (preparation of detector), V. D. Yurchenko and E. B. Rodzevich (general assistance). Orig. art. has: 3 figures.

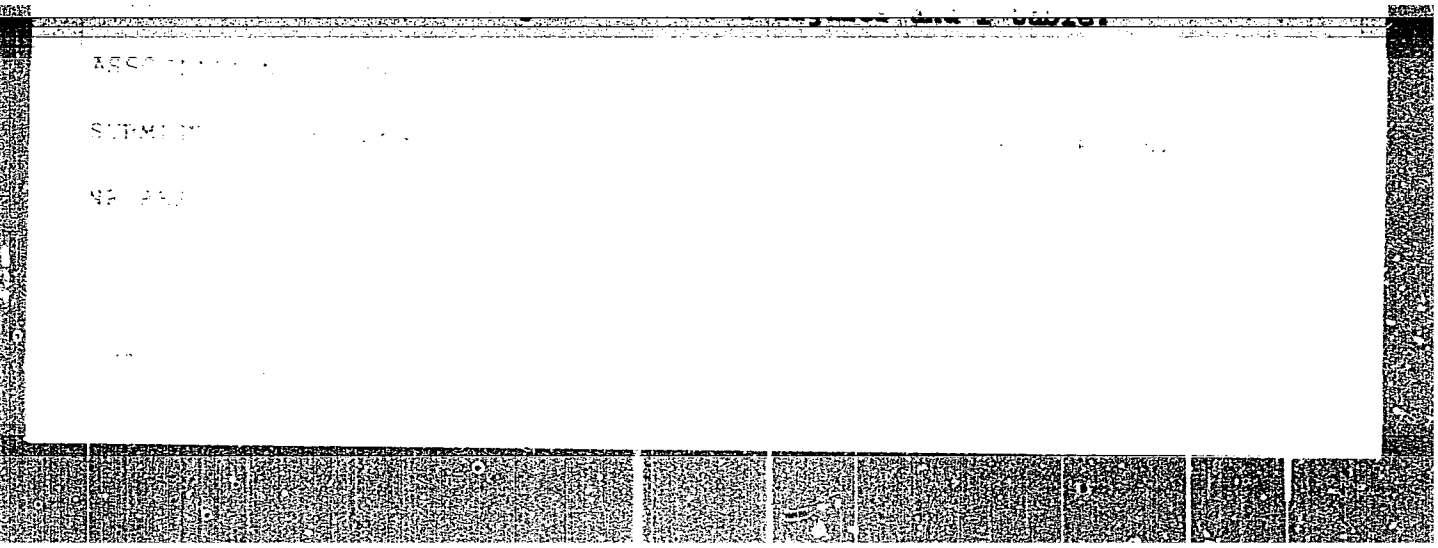
ASSOCIATION: None

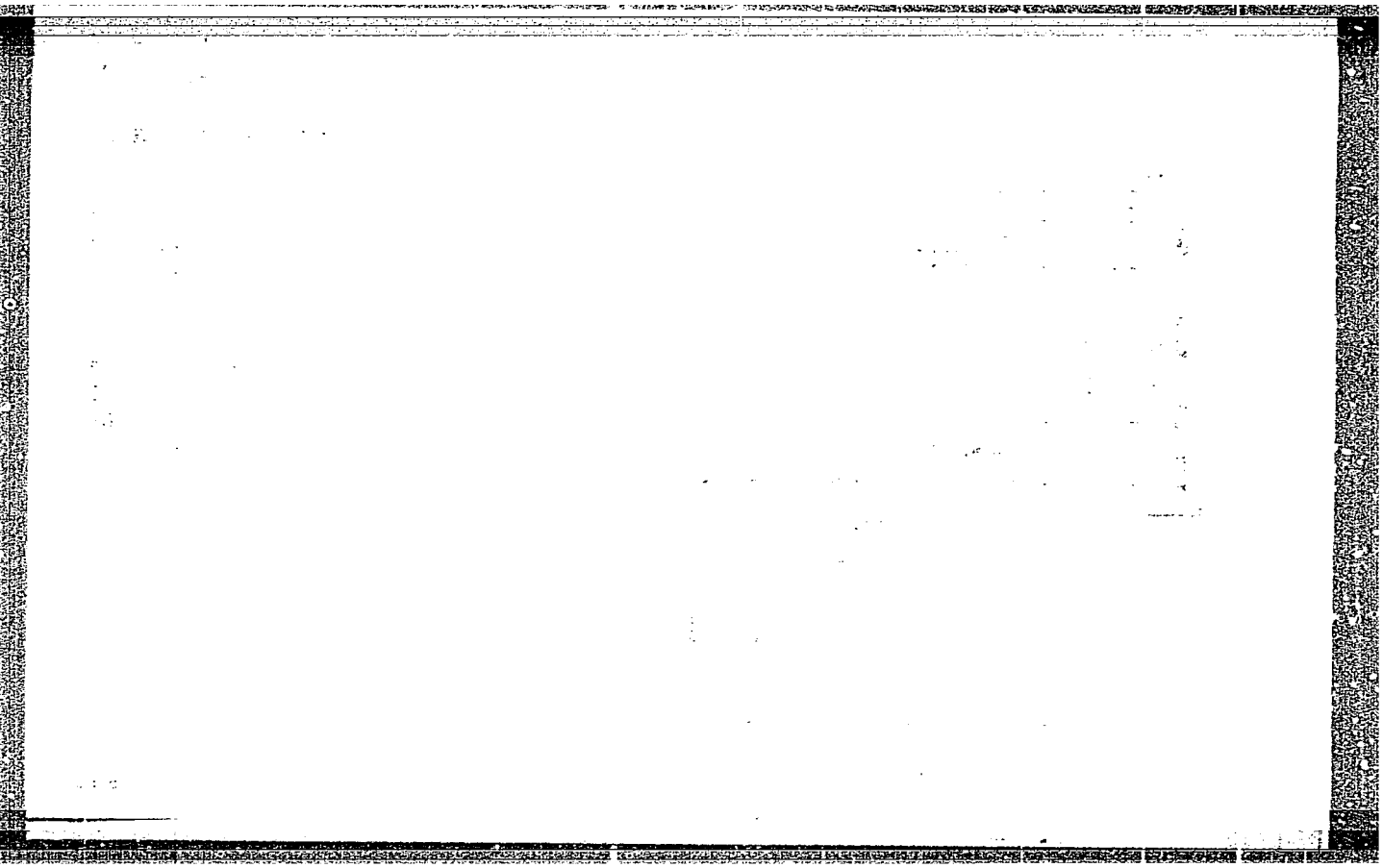
SUBMITTED: 17Nov64 ENCL: 00 SUB CODE: NP

NO REF SOV: 004 OTHER: 000

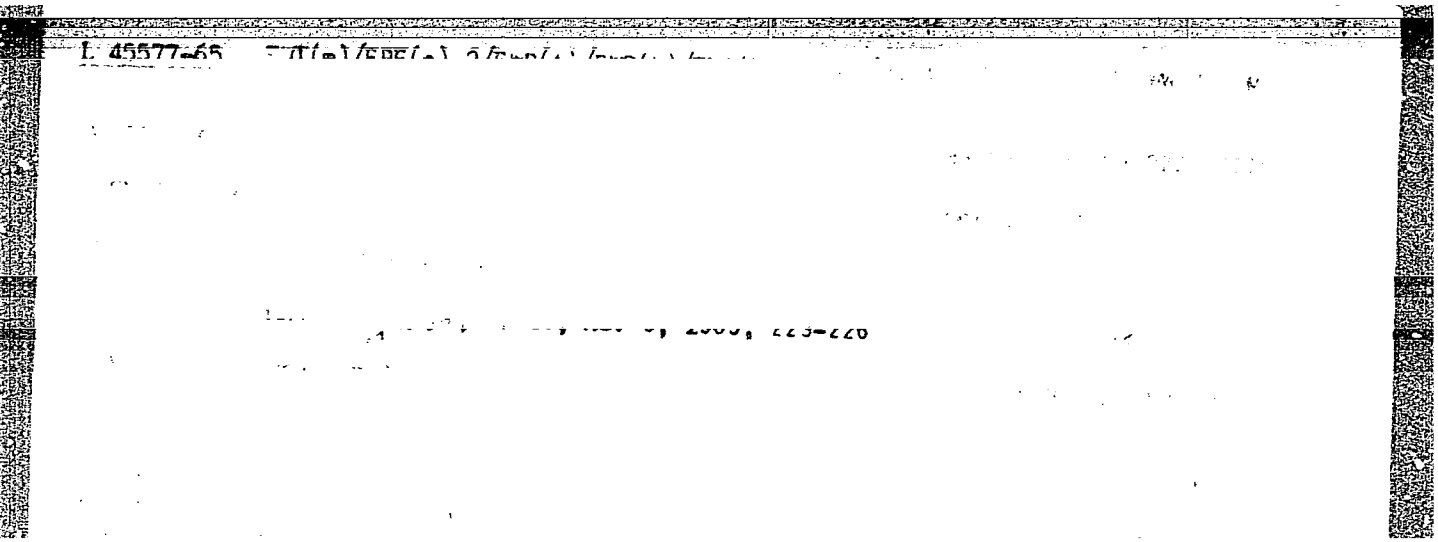


values of the anisotropy are nearly equal, with the maximum differ-





APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858510013-9"



Card 1/2

L 45577-65

ACC NR: AP 7001722 SOURCE CODE: UR/0048/66/030/012/2040/2047

AUTHOR: Popeko,L.A.; Val'skiy,G.V.; Petrov,G.A.; Kaminker,D.M.

ORG: none

TITLE: Delayed gamma radiation from fission fragments from the slow neutron induced fission of U 235 /Report, Sixteenth annual Conference on Nuclear Spectroscopy and Nuclear Structure held at Moscow, 26 Jan. - 3 Feb. 1966/

SOURCE: AN SSSR, Izvestiya. Seriya fizicheskaya, v. 30, no.12, 1966, 2040-2047

TOPIC TAGS: nuclear fission, fission product, gamma spectrum, delayed gamma emission, uranium

ABSTRACT: The authors have investigated delayed gamma radiation emitted by fission fragments from the slow neutron induced fission of U^{235}. The target was a 2.3 cm diameter 400 $\mu g/cm^2$ thick film of uranium oxide on a 40 $\mu g/cm^2$ aluminum oxide substrate. The target was mounted between two n-p type gold-silicon semiconductor detectors, which served to record the two fission fragments, and was located in the neutron beam from a reactor. The direction of the neutron beam was parallel to the plane of the target. The gamma rays were detected by a 3 x 4 cm NaI(Tl) scintillator immediately beyond one of the fission fragment detectors. This scintillator recorded with good efficiency only gamma rays produced in its immediate vicinity, i.e., it recorded essentially only gamma rays emitted by a fragment after it had been brought

Card 1/2

ACC NR: AP7001728

to rest in the associated semiconductor detector. The minimum delay of the recorded gamma rays was thus determined by the fragment flight time from the target to the detector; this detector was mounted 10 cm from the target, and the minimum delay time was accordingly about 10^{-8} sec. The pulses from the semiconductor detectors and the scintillator were analyzed in a rather complex electronic circuit and were recorded in pulse height analyzers. The delayed gamma ray spectra from the heavier and the lighter fragments are presented graphically. The lighter fragment produced more delayed gamma rays per fission than did the heavier one. A peak was observed in each of these spectra that had not been found in the previous work of the authors (Atomnaya energiya,19, 186 (1965)). It is suggested (but it was not confirmed) that each of these peaks may be due to simultaneous recording of gamma rays belonging to two other peaks observed in both experiments. The gamma ray spectrum was investigated as a function of the fragment mass. For this investigation the gamma ray energy range was divided into three regions (above 40 keV, between 100 and 185 keV, and between 185 and 250 keV), the fission fragment masses were determined from the kinetic energies of the two fragments from the same fission, and the results are presented graphically. There are considerable differences between the curves for the different gamma ray energy ranges, and between the present curves and the analogous curves obtained by Sven A.E.Johansson (Nucl.Phys.,64,147 (1965)) for spontaneous fission of Cf^{252}. No dependence of the delayed gamma ray spectrum on the total mass of the two fragments could be detected. The authors thank V.F.Afanas'yev for fabricating the large semiconductor detectors, and V.D.Yurchenko and E.B.Rodzevich for assisting with the measurements. Orig. art. has: 9 figures.

SUB CODE: 20 SUBM DATE: None ORIG REF: 003 OTH REF: 004

Card 2/2

L 30787-66 EWT(d)/T IJP(c)

ACC NR: AP6022093 SOURCE CODE: UR/0199/66/007/001/0055/0060

AUTHOR: Val'skiy, R. E.; Khavin, V. P.

ORG: none

TITLE: Elimination of singularities of analytic functions and transfer of mass

SOURCE: Sibirskiy matematicheskiy zhurnal, v. 7, no. 1, 1966, 55-60

TOPIC TAGS: analytic function, Lipschitz condition, mathematic space, distribution theory

ABSTRACT: The author proves that the space A Lip (X) of functions that are analytic on some open set X and satisfy the Lipschitz condition there is conjugate to some space of functions that are analytic on the complement of X. Necessary and sufficient conditions for A Lip (X) to be nontrivial are given. The starting point for the discussion is a problem on transferring mass so as to equalize the distribution in a space. Orig. art. has: 6 formulas. [JPRS]

SUB CODE: 12 / SUBM DATE: 23Dec64 / ORIG REF: 005

Card 1/1 JS

UDC: 517.53

0915 0004

VAL'SKIY, Ye.G., inzh.; TURKHMETS, A.A., inzh.; TARASENKO, V.., inzh.; OVIYABLIN, G.F., inzh.

Gas furnace for a secondary smelting cast iron. Mashinostroenie no.5:68-70 S-O '65. (MIRA 18:9)

POMINOV, I.S.; VAISOV, N.N.; FROLOV, G.I.

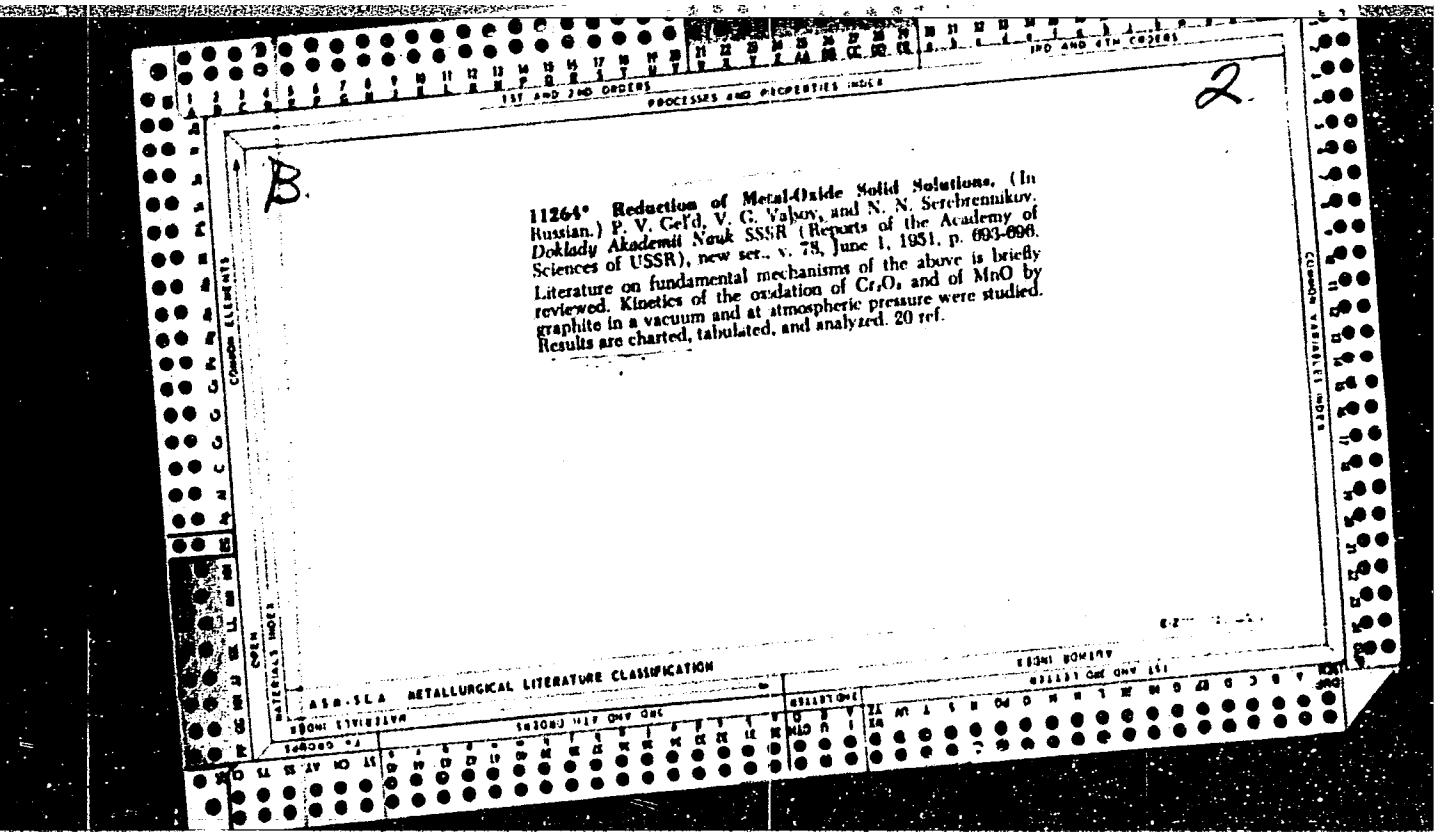
Cryostat to the SF-4 spectrophotometer for investigating liquids at low temperature. Zav. lab. 30 no.5:634 '64.
(MIRA 17:5)

1. Kazanskiy gosudarstvennyy universitet.

VALSOV, Vladimir Fedorovich.

Electronic vacumm-tube devices Izd. 2.,perer. id odp. Moskva, Gos. izd-vo lit-ry po voprosam sviazi i radio, 1949. 519 p. (50-22156)

QC544.V3V55 1949



11264* **Reduction of Metal-Oxide Solid Solutions.** (In Russian.) P. V. Gel'd, V. G. Vaĭnov, and N. N. Serebrennikov. *Doklady Akademii Nauk SSSR* (Reports of the Academy of Sciences of USSR), new ser., v. 78, June 1, 1951, p. 693-696. Literature on fundamental mechanisms of the above is briefly reviewed. Kinetics of the oxidation of Cr_2O_3 and of MnO by graphite in a vacuum and at atmospheric pressure were studied. Results are charted, tabulated, and analyzed. 20 ref.

VAL'STEN, V. I.

4688. vysoko p roduktivnoe thvotnovdstvo kolkhota imeni stalina (lukhovits. rayon mosk. obl) per. so 2-go l td. tashk-ent, gositdat utssr, 1954 120 s. s ill. 20 sm. 10,000 ekt lr. 60k. na. obl. avt. neukatany-na-utbek-yat-(54-57027) 636.5.083 st (47.31) 7331 (47) (092)

PROKOPCHIK, A.Yu. [Prokopchikas, A.]; VALSYUNENE, Ya. [Valsiuniene, J.]

Interaction of [illegible] chlorite with hydrogen peroxide. Trudy AN Lit. SSR. Ser. B no.[illegible] '63. (MIRA [illegible])

1. Institut khimii i khimicheskoy tekhnologii AN Litovskoy SSR.

NORKUS, P.K.; VAL'SYUNENE, Ya. I. [Valsiuniene, J.]

Use of OsO_4 as a catalyst in arsenitometry. Report No.6: Determination of hydrogen peroxide and sodium chlorite. Trudy AN Lit. SSR. Ser. B. no.1:159-162 '64 (MIRA 17:7)

1. Institut khimii i khimicheskoy tekhnologii AN Litovskoy SSR.

NORKUS, P.K.; VAL'SYUNENE, Ya.I. [Valsiuniene, J.]

Use of the OsO_4 catalyst in arsenitometry. Part 3: Determination of chlorite and hydrogen peroxide. Trudy AN Lit. SSR. Ser. B no.2: 37-43 '62. (MIRA 18:3)

1. Institut khimii i khimicheskoy tekhnologii AN Litovskoy SSR.

PROKOPCHIK, A.Yu. [Prokopcikas, A.]; VAL'SYUNENE, Ya.I. [Valsiuniene, J.]

Bleaching by a mixture of chlorite and hydrogen peroxide.
Trudy AN Lit. SSR. Ser. B no.2:79-87 '64.

(MIRA 18:3)

1. Institut khimii i khimicheskoy tekhnologii AN Litovskoy SSR.

L 44062-66 EWT(m)/EWP(t)/ETI IJP(c) JD/HW

ACC NR: AP6030633 (A,N) SOURCE CODE: UR/0413/66/000/016/0130/0130

INVENTOR: Val'syunene, Ya. I.

ORG: none

TITLE: Solution for activating titanium prior to chemical nickel-plating. Class 48, No. 185182. [announced by the Institute of Chemistry and Chemical Technology, AN Lithuanian SSR (Institut khimii i khimicheskoy tekhnologii AN Litovskoy SSR)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 16, 1966, 130

TOPIC TAGS: titanium, titanium activation, titanium plating, chemical titanium plating, titanium nickel plating, titanium nickel coating, NICKEL PLATING

ABSTRACT: This Author Certificate introduces a fluoride compound solution for activating titanium prior to chemical nickel-plating. To obtain a uniform plating tightly adhering to the base metal, a solution containing 220 g/l nickel chloride, 120 ml/l hydrochloric acid, and 20—40 g/l ammonium fluoride is used. [ND]

SUB CODE: 13/ SUBM DATE: 16Jun65/ ATD PRESS: 5076

Card 1/1 blg UDC: 621.794.422

ACC NR: AP7003463 (N) SOURCE CODE: UR/0236/66/000/002/0061/0067

AUTHOR: Val'syunene, Ya. I.—Valsiuniene, J.; Prokopchik, A. Yu.—Prokopcikas, A.

ORG: Institute of Chemistry and Chemical Technology, AN Lithuanian SSSR(Institut himii i khimicheskoy tekhnologii AN Litovskoy SSSR)

TITLE: Preparation of titanium surface for electroless nickel plating

SOURCE: AN LitSSR. Trudy. Seriya B. Fiziko-matematicheskiye, khimicheskiye, geologicheskiye i tekhnicheskiye nauki, no. 2, 1966, 61-67.

TOPIC TAGS: titanium, nickel plating, nickel electroless plating, metal plating, metal surface /VT1 titanium

ABSTRACT: Experiments have been made to determine the optimum chemical composition of reagents and technology for electroless nickel plating of VT-1 commercial-grade titanium. Formation of a strongly adhering nickel coating on titanium surface was possible only with the reduction of nickel on an intermediate sublayer formed with pickling titanium in a 40% H_2SO_4 or 35% HCl solution. Good quality, strongly adhering nickel coatings were obtained on VT-1 titanium degreased in Vienna lime, pickled in 40% sulfuric acid for 60 min at 80C, and activated at 18—20C for 2—3 sec in a solution containing 220 g/l $NiCl_2 \cdot 6H_2O$, 125 ml/l concentrated HCl and 20—40 g/l NH_4F. Electroless plating of the prepared surface was done in a solution such as 15 g/l $Ni(CH_3COO)_2$ and 10 g/l $NaH_2PO_2 \cdot H_2O$ at 90C with a solution pH of 4.0—4.5. Heat

Card 1/2

ACC NR: AP7003463

treatment at 300—400C increased the strength and adhesion of nickel coatings to the base metal so that they sustained a multiple 90 deg-bending up to the failure of the base metal. Orig. art. has: 4 tables.

SUB CODE: 11/ SUBM DATE: 09Feb66/ ORIG REF: 006/ OTH REF: 005/

Card 2/2

66701

SOV/109-4-8-21/35

28.5000, 24.2120

AUTHORS: Reynet, Ya.Yu., Tammet, Kh.F. and ~~Val't, L.O.~~

TITLE: Methods of Unipolar Ionisation of Air by Means of Aero-ionisers

PERIODICAL: Radiotekhnika i elektronika, 1959, Vol 4, Nr 8, pp 1335 - 1338 (USSR)

ABSTRACT: The aim of this article is to give a short review of the methods of aero-ionisation and to describe the work of the Kafedra fiziki Tartuskogo gosudarstvennogo universiteta (Physics Chair of Tartu State University) in this field. The aero-ionisation finds the following applications. The uni-polarly ionised air is used for inhalation in medecine for therapeutic purposes. Secondly, the artificial ionisation of air is employed in industry for the elimination of obnoxious static electric charges. Thirdly, it is employed for the acceleration of the condensation of aerosols, which is of importance in industry, agriculture and medicine. The air inside a closed space can be ionised by means of a special ioniser which produces unipolar ions; these are propelled

Card1/3

66701

SOV/109-4-8-21/35

Methods of Unipolar Ionisation of Air by Means of Aero-ionisers

into the space by diffusion, electric fields or by convection. The ionisers should usually meet the following requirements;
1) a high ionisation capacity;
2) ability to produce unipolar ions (normally negative ones);
3) absence of unpleasant accompanying phenomena (noise, wind, ozone, etc.) and, 4) simplicity, small dimensions and long life.
One of the best-known ionisers is the corona-type ioniser. The laboratory of Tartu University has constructed such an ioniser. The high voltage in this device was obtained by means of a small high-frequency rectifier. The ions were removed from the device by means of an air stream produced by a fan. The ioniser was mounted into a cylindrical body having a diameter of 5 cm and length of 14 cm. The device could be inserted into a normal electric-bulb adaptor. The ioniser consumed a negligible power and gave an ion concentration of 6×10^5 charges/cm^2 at

Card 2/3

Methods of Unipolar Ionisation of Air by Means of Aero-ionisers

a distance of 20 cm. A thermo-ioniser has also been constructed by the laboratory; this was based on a nichrome wire which was heated to a temperature of 1 000 °C; the wire was given a potential of 500 V. The ionising capacity of the thermo-ionisers is lower than that of the corona-ionisers but their advantage lies in the fact that they produce no biologically active gases. It is also possible to devise radioactive and ultraviolet ionisers but these have not been studied thoroughly, The problem of the charging of aerosols was investigated by means of an inhaler-ioniser and an aerosol hydrogen ioniser constructed at the laboratory. These devices employed a Bergson-Barkovskiy pulveriser. By means of the inhaler-ioniser, it was possible to obtain the ratio of the average charge to the mass of the charge droplets of the order of 1.5×10^4 electrostatic units CGSE/g.
There are 1 table and 2 Soviet references.

SUBMITTED: March 5, 1959

Card 3/3

VALTAOAARI, MATTI

Finland - Wood - Using Machinery

Expansion of production and new processes in the Finnish forest products industry. Finisk. torg. zhur. No.23, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

VALTEANU, E.

"Marginal notes on the standardization of alcoholic beverages and ethyl alcohol. p. 16. (PETROL SI GAZE, Vol. 6, no. 1/2, Jan/Feb 1954. Bucuresti, Rumania.)

SO: Monthly List of East European Accessions, (EEAL), LC. Vol. 4, No. 5, May 1955, Uncl.

1. VAL'TER, A., Eng.

2. USSR (600)

4. Propellers

7. Replacing bronze sheaths on propeller shafts with steel ones. Mor. flot. 13, No. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

VAL'TER, A.

What the seamen ask of the shipbuilders. Mor. flot 25 no.4: 29-30 Ap '65. (MIRA 18:6)

1. Zamestitel' nachal'nika Upravleniya po zakazam i nablyudeniyu za strcitel'stvom flota Ministerstva morskogo flota SSSR.

VALTER, Aleksej

River shipbuilding in the light of the development of inland water transportation. Medun transp 8 no.2:106-108 F '62.

SOV/124-57-7-8451

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 7, p 148 (USSR)

AUTHOR: Val'ter, A. A.

TITLE: Determining in the Case of Steel-cable-type Tackles the Losses of Mechanical Advantage Due to Cable Stiffness When the Cables Engage the Sheaves at Small Angles (Opredeleniye poter' na zhestkost' stal'nykh kanatov pri malykh uglakh obkhvata blokov)

PERIODICAL: Tr. Penzensk. industr. in-ta, 1955, Nr 3, pp 24-48

ABSTRACT: Results are given of experiments conducted with a special apparatus which makes it possible to alter the angle at which a tackle cable engages a sheave as the load upon the cable varies. The cable's angle of flexure ranged from 2 to 80°; the tensile stress exerted upon the wire strands of the cables tested ranged from 8.7 ÷ 31 kg/mm^2. The author investigates the two cases in which: 1) the cable engages the sheave at a "subcritical" angle, and 2) the cable engages the sheave at a "supercritical" angle ("critical" here designating that angle at which the cable touches the sheave at one point only). The paper does not shed any light on any tests relative to a determination of the critical angle as a function of the wear resistance of the cable. The

Card 1/2

Determining in the Case of Steel-cable-type Tackles the Losses of (cont.)

author arrives at the following conclusions: 1) At supercritical angles of flexure the losses of mechanical advantage due to cable stiffness are constant and can be calculated with the formula adduced by K. M. Maslennikov in his dissertation [Zhestkost' stal'nykh kanatov pri izgibe (The Bending Stiffness of Steel Cables). Leningrad, LPI im. Kalinina, 1949]; 2) at subcritical angles of flexure the losses of mechanical advantage decrease approximately in proportion to the decrease in the angle of flexure; 3) the magnitude of the critical angle of flexure is determined by the respective diameters of the sheave and the cable; 4) the total loss of mechanical advantage in multiple-sheave tackles is determined by the sum of the respective flexure angles of all the cables involved and by the diameter of the sheaves.

B. D. Tikhovidov

Card 2/2

VAL'TER, A.A.; YEREMENKO, G.K. [IEremenko, H.K.]

Mineralogy of nepheline rocks in the southern part of the Ukrainian Crystalline Shield. Mat.z min.Ukr. no.2:153-157 '61. (MIRA 15:8)

(Dnieper Valley--Nephelite)

YEREMENKO, G.K.; VAL'TER, A.A.; KLIMENCHUK, V.I.

Distribution of gallium in alkali rocks as revealed by the study in the region of the Sea of Azov. Geokhimiia no.2:132-136 F '63. (MIRA 16:9)

1. Institute of Mineral Resources, Academy of Sciences, Ukrainian S.S.R., Simferopol.

YEREMENKO, G.K.; VAL'TER, A.A.

Accessory tainiolite from alkali metasomatites from the region of the Sea of Azov. Zap. Vses. min. ob-va 92 no.5:599-601 '63. (MIRA 17:1)

1. Institut mineral'nykh resursov AN UkrSSR, Simferopol'.

VAL'TER, A.A.; YEREMENKO, G.K.; STREMOVSKIY, A.M.

Calcium rinkite from Ukrainian alkaline rocks. Dokl. AN SSSR 150 no.3:639-641 My '63. (MIRA 16:6)

1. Institut mineral'nykh resursov AN UkrSSR. Predstavleno akademikom D.I. Shcherbakovym.
(Ukraine--Rinkite)

VAL'TER, A.A.; YEREMENKO, G.K.

Magnetometric study of the state of cerium in britholite. Zap. Vses. min. ob-va 93 no.1:64-68 '64 (MIRA 18:2)

1. Institut mineral'nykh resursov AN UkrSSR, Simferopol'.

VAL'TER, A.A.; YEREMENKO, G.K. [IEr'omenko, H.K.]

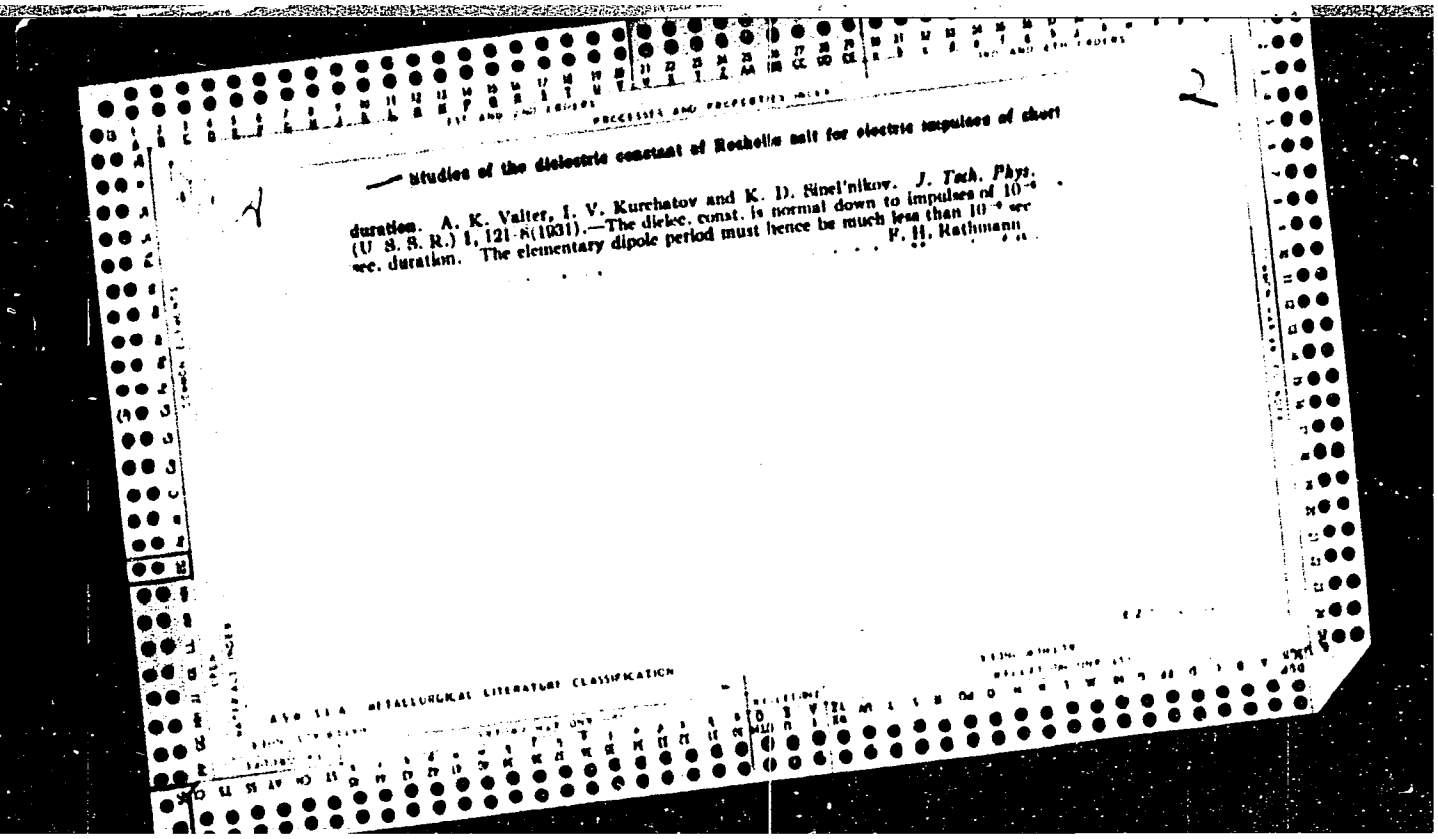
Disordered potassium feldspar from the Pokrovo-Kireyevo alkaline massif. Dop. AN URSR no.1:100-104 '65. (MIRA 18:2)

1. Institut mineral'nykh resursov Gosudarstvennogo geologicheskogo komiteta SSSR. Predstavleno akademikom AN UkrSSR N.P. Semenenko [Semenenko, M.P.].

VAL'TER, A.A.; YEREMENKO, G.K. [IEr'omenko, H.K.]

Magnetic susceptibility of calcite and some other carbonates. Geol. zhur. 24 no.1:58-62 '64. (MIRA 18:7)

1. Institut mineral'nykh resursov AN UkrSSR.



Studies of the dielectric constant of Rochelle salt for electric impulses of short duration. A. K. Valter, I. V. Kurchatov and K. D. Sinel'nikov. *J. Tech. Phys.* (U. S. S. R.) 1, 121-8(1931).—The dielec. const. is normal down to impulses of 10^{-6} sec. duration. The elementary dipole period must hence be much less than 10^{-9} sec.

F. H. Rathmann

VAL'TER A. K.

Bombardment of the atomic nucleus. Khar'kov, Goe. Nauchno-tekhn. izd-vo Ukrainy, 1933. 191 p. (50-49645)

QC173.V34

1. Nuclear physics. 2. Atoms.

VAL'TER, A. K.

The mystery of cosmic rays Leningrad, Glav. red. obshchetekhn. lit-ry, 1937. 246 p.
(49-38494)

QC485.V3

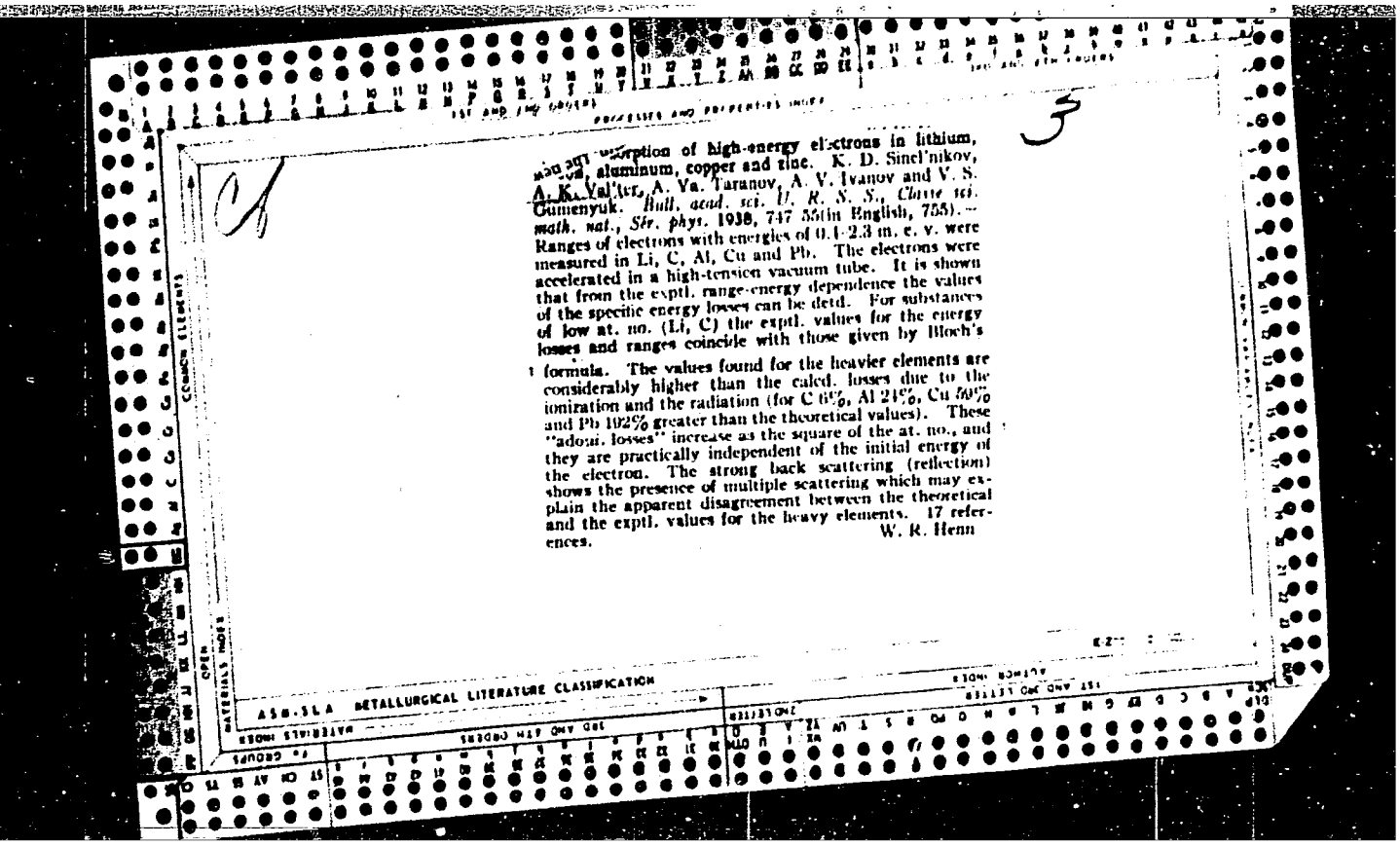
1. Cosmic rays.

VAL'TER, A. K.; GACHKOVSKIY, V. G.; STRELKOV, P. G.

Thermic Constants in High Temperatures

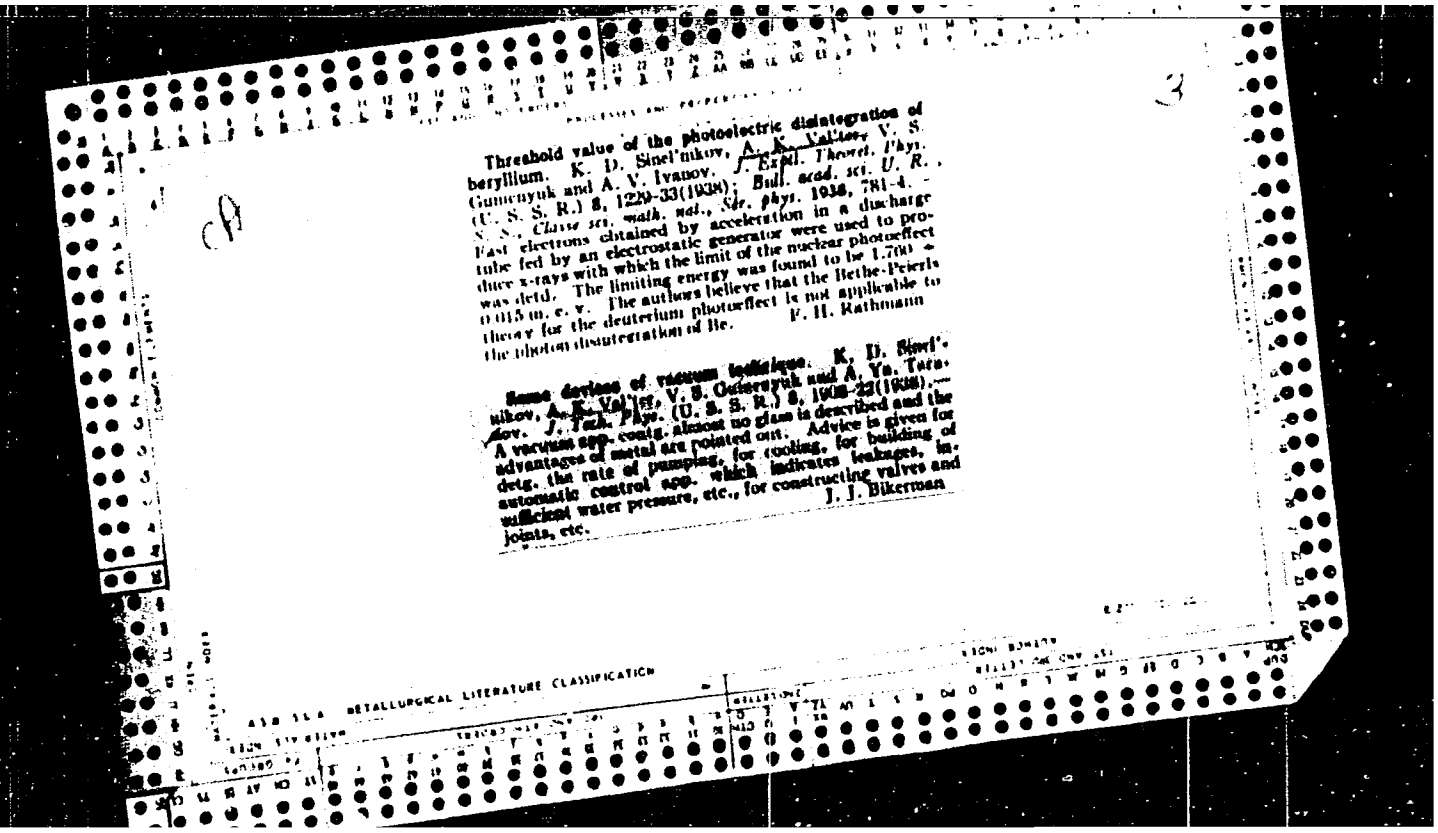
II-Thermic Expansion of Rock Salt

ZhETF 7, 526, 1937



Absorption of high-energy electrons in lithium, aluminum, copper and zinc. K. D. Sinel'nikov, A. K. Val'ter, A. Ya. Taranov, A. V. Ivanov and V. S. Gumenyuk. *Bull. acad. sci. U. R. S. S., Classe sci. math. nat., Sér. phys.* 1938, 747-55(in English, 755).—Ranges of electrons with energies of 0.1-2.3 m. e. v. were measured in Li, C, Al, Cu and Pb. The electrons were accelerated in a high-tension vacuum tube. It is shown that from the exptl. range-energy dependence the values of the specific energy losses can be detd. For substances of low at. no. (Li, C) the exptl. values for the energy losses and ranges coincide with those given by Bloch's formula. The values found for the heavier elements are considerably higher than the calcd. losses due to the ionization and the radiation (for C 6%, Al 21%, Cu 50% and Pb 102% greater than the theoretical values). These "adonl. losses" increase as the square of the at. no., and they are practically independent of the initial energy of the electron. The strong back scattering (reflection) shows the presence of multiple scattering which may explain the apparent disagreement between the theoretical and the exptl. values for the heavy elements. 17 references.

W. R. Henn

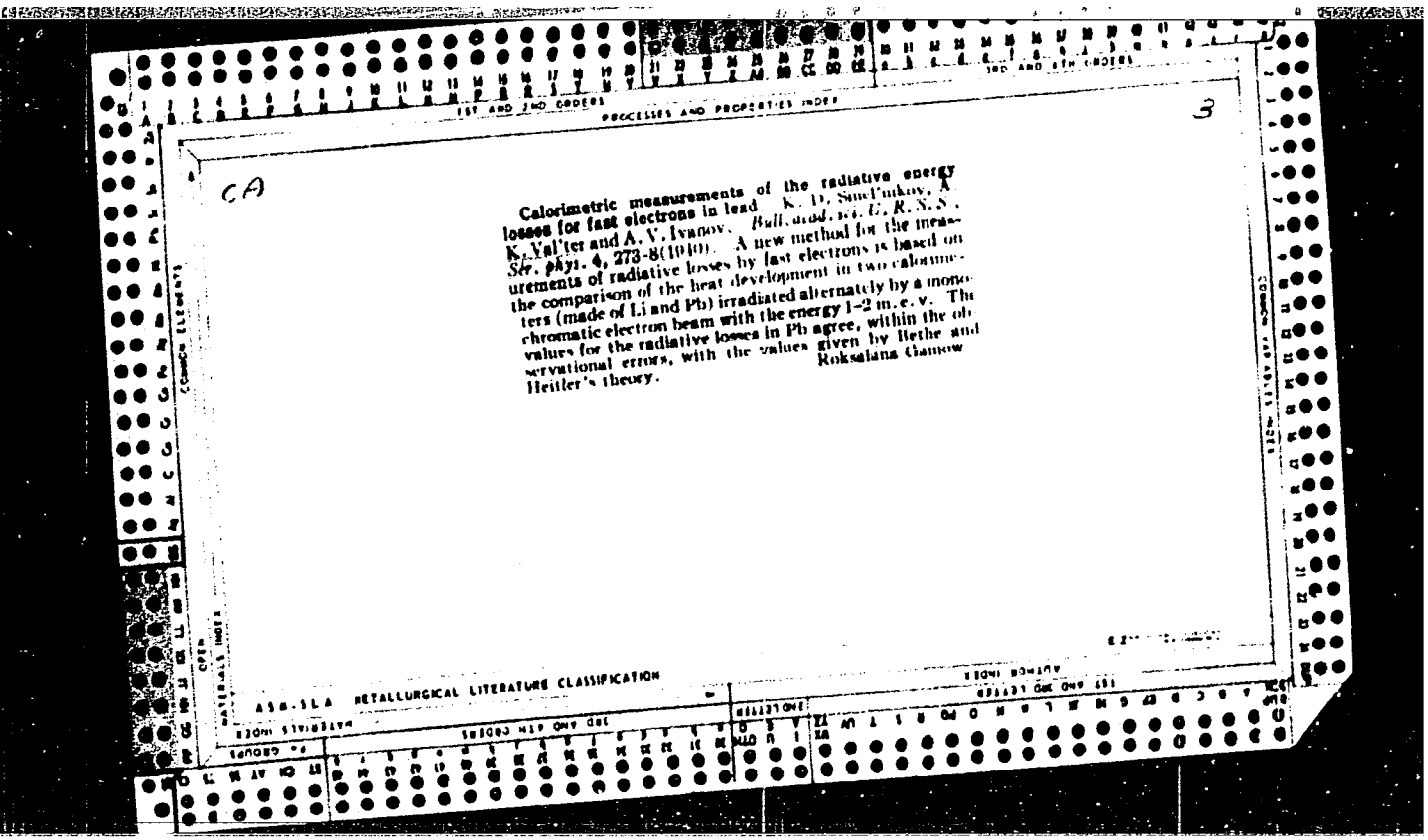


Threshold value of the photoelectric disintegration of beryllium. K. D. Sinel'nikov, A. K. Val'ter, V. S. Gumenyuk and A. V. Ivanov. *J. Exptl. Theoret. Phys.* (U. S. S. R.) 8, 1229-33(1938); *Bull. acad. sci. U. R. S. S., Classe sci. math. nat., Sér. phys.* 1938, 781-4. — Fast electrons obtained by acceleration in a discharge tube fed by an electrostatic generator were used to produce x-rays with which the limit of the nuclear photoeffect was detd. The limiting energy was found to be 1.700 ± 0.015 m. e. v. The authors believe that the Bethe-Peierls theory for the deuterium photoeffect is not applicable to the photodisintegration of Be. F. H. Rathmann

Some devices of vacuum technique. K. D. Sinel'nikov, A. K. Val'ter, V. S. Gumenyuk and A. Ya. Taranov. *J. Tech. Phys.* (U. S. S. R.) 8, 1938-22(1938).— A vacuum app. constg. almost no glass is described and the advantages of metal are pointed out. Advice is given for deg. the rate of pumping, for cooling, for building of automatic control app. which indicates leakages, insufficient water pressure, etc., for constructing valves and joints, etc. J. J. Bikerman

VAL'TER, A. K.

"Concerning the Optimum Shape of Conductors of Electrostatic Generators," Iz. Ak. Nauk SSSR, Ser. Fiz. 4, No. 2, 1940. High-Voltage Laboratory, Ukrainian Physico-Technical Institute, Kharkov. -1940-.

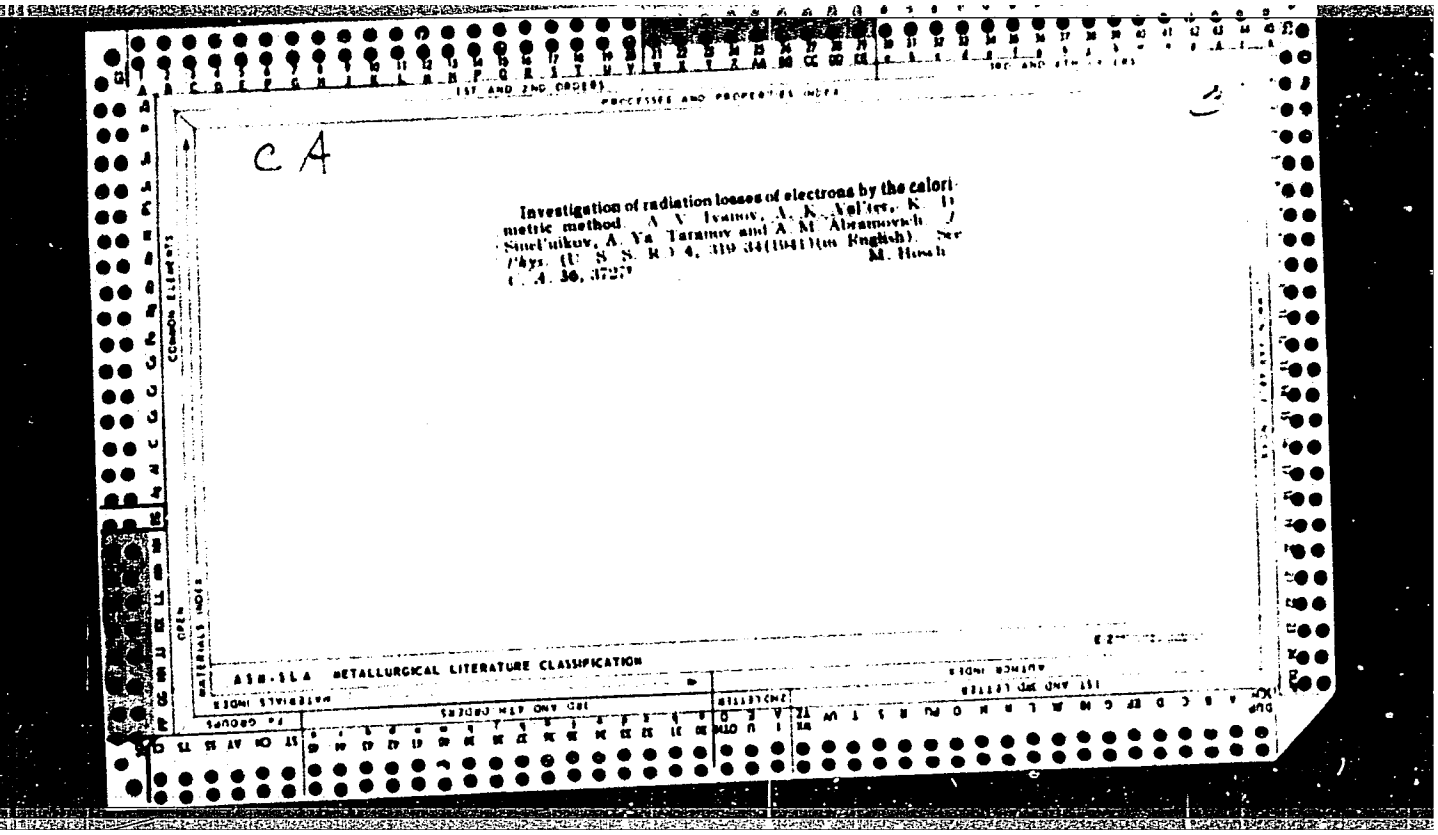


CA

3

Calorimetric measurements of the radiative energy losses for fast electrons in lead. K. D. Sinel'nikov, K. Val'ter and A. V. Ivanov. *Bull. Acad. Sci. U.S.S.R., Ser. phys.* 4, 273-8(1940). A new method for the measurements of radiative losses by fast electrons is based on the comparison of the heat development in two calorimeters (made of Li and Pb) irradiated alternately by a monochromatic electron beam with the energy 1–2 m.e.v. The values for the radiative losses in Pb agree, within the observational errors, with the values given by Bethe and Heitler's theory. Roksalana Ganow

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



CA 5

Investigation of the radiational losses of electrons by the calorimetric method. A. V. Ivanov, A. K. Val'ter, K. D. Sinel'nikov, A. Ya. Taranov and A. M. Abramovich. *J. Exptl. Theoret. Phys.* (U. S. S. R.) 11, 43-50 (1941).—The authors test Bethe-Heitler's theory (*C. A.* 28, 7140[5]) of the radiative losses of electrons in a mono-

kinetic electron beam of 0.5-2.6 m. e. v. The radiative
loss is only a small part of the total loss, so that a differen-
tial method is used. The electron beam strikes alterna-
tively a calorimeter contg. Li foil in which the radiative
loss can be disregarded and another contg. Pb in which,
because of the high nuclear charge, the radiative loss is
relatively important. The walls of the calorimeters are
chosen thick enough to absorb all the material radiation,
but thin enough to be nearly transparent for the high-
energy photons emitted by the radiative slowing down.
The difference in the temp. rise of the 2 calorimeters, as
compared with the energy absorbed by the calorimeter
bearing the Li foil, gives the part of the radiative slowing
down. To avoid the error due to the inconstancy of the
elec. potential on the ends of the 12-meter-long discharge
tube, the beam is alternately directed by magnetic fields
on both calorimeters; the alternation is 4-10 times per
sec. The current was const. during the irradiation within
±10%. An ingenious electron-optical system permits the
beam to be directed on the two symmetrically built calorime-
ters. The sensitivity of thermocouples used is improved
by the following device: the light spots of the galvan-
ometers hit Se photoelements, between the electrodes of
which another set of galvanometers is placed. Thus
for the abs. temp.-measuring thermocouples the deflection
is 1 division per $5 \times 10^{-4°}$, for differential thermocouples
1 division for $5 \times 10^{-6°}$. The capacity of both calorime-
ters, suspended *in vacuo*, was about 43 cal./°C. The
temp. difference between the calorimeters is of the order
of $10^{-4°}$. The obtained value of $\eta_{exptl.}$ (= fraction of radia-
tive losses in the total losses), cannot be compared directly
with the theoretical, because of the still existing ab-
sorption of the photon radiation in the calorimeters.
This can be allowed for in 2 ways, either by varying the
thickness of the Pb foil and extrapolating the exptl. values
to zero absorption (this way is chosen for further expts.
but is not yet used in the present publication), or by calcg.
the theoretical spectral distribution and absorption of the
photons produced and correcting the theoretical values,
so as to take this absorption into account. These calcns.
were made and are given in forms of graphs. The $\eta_{calc.}$
so reduced are given in the table below, in which E_0 is the
initial energy of the electron beam in m. e. v.

E_0	0.737	1.030	1.335	1.590	1.830	1.933	2.140	2.337
$\eta_{exptl.}$ %	0.41	0.95	1.61	2.16	2.92	3.30	4.30	5.75
	±.11	±.25	±.08	±.10	±.08	±.13	±.27	±.25
$\eta_{calc.}$ %	0.4	1.1	2.1	2.8	3.7	4.1	4.9	6.5

The agreement between the theoretical and exptl. values is
satisfactory. As the theoretical values are always some-
what larger than the exptl. ones, it seems established that
Bethe-Heitler's theory of the losses accounts correctly for
all the processes possible.

M. Mayer

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

C A

1

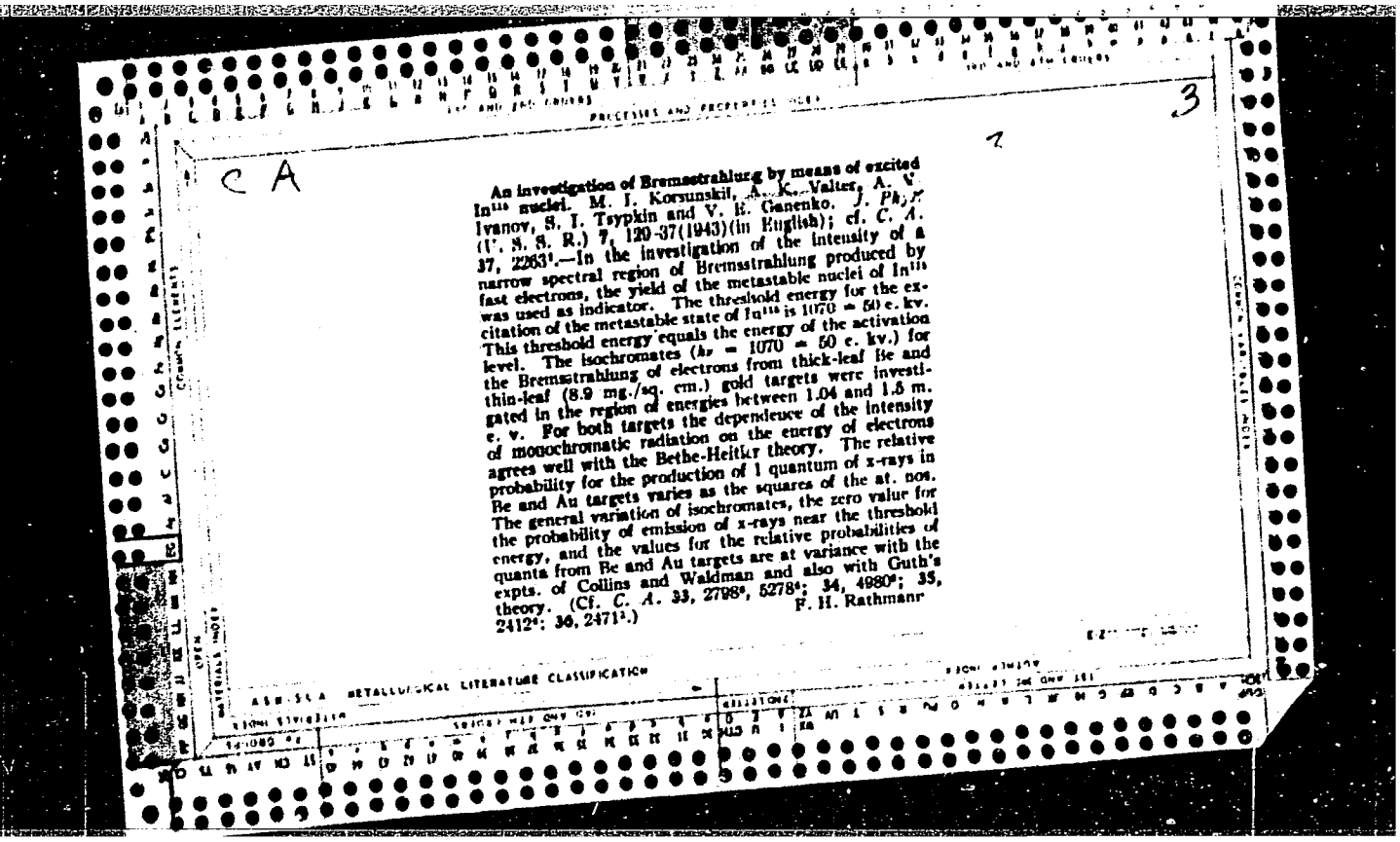
Fractionating vacuum pumps. K. D. Sinel'nikov, A. K. Val'ter, D. N. Uterko and A. N. Yamnitskii. *J. Tech. Phys.* (U. S. S. R.) 11, No. 92(1941).—A crit. discussion of the principle of the self-fractionating vacuum oil pumps. The problems involved in design and construction of such pumps are presented in detail. Constructional details of the following types of pumps are given: three-stage glass pump of small capacity, three-stage metal pump of 80 l./sec., three-stage metal pump of 1000 l./sec. capacity, two-stage air-cooled metal pump of 40 l./sec. capacity and a similar one with water cooling, and a single-stage metal pump with 8 l./sec. capacity. Numerous expts. are given in which the effect of fore-vacuum on pumping speed, the purity of oil on pumping speed and the boiler temp. on pumping speed are illustrated for the self-fractionating oil pumps. Illustrations of the pumps described are given in sectional views. G. M. Kosolapoff

Pressure drop in the flow of compressible fluids. Walter E. Lobo, Leo Friend and G. T. Skaperdas. *Ind. Eng. Chem.* 34, 821-3(1942).—Pressure drop due to kinetic-energy changes and friction for isothermal flow of compressible fluids in conduits of uniform cross section can be calcd. by means of an integrated formula and a chart based on the Bernoulli and Fanning equations. Accuracy of the method is limited only by small variations in viscosity and friction factor. The method is compared with others and the relative importance of kinetic-energy changes indicated. R. M. Schoenborn

ASA-SLA METALLURGICAL LITERATURE CLASSIFICATION

VAL'TER, A. K.

"Investigation of 'Bremsstrahlung' by Means of the Indium Isomer," Zhur. Eksper. i Teoret. Fiz., 12, Nos. 1-2, 1942. Physico-Tech. Inst., Acad. Sci., Kharkov, -1941-



CA

3

An investigation of Bremsstrahlung by means of excited In^{115} nuclei. M. I. Korsunskii, A. K. Valter, A. V. Ivanov, S. I. Tsypkin and V. E. Ganenko. *J. Phys.* (U. S. S. R.) 7, 120-37(1943)(in English); cf. *C. A.* 37, 2263[1].—In the investigation of the intensity of a narrow spectral region of Bremsstrahlung produced by fast electrons, the yield of the metastable nuclei of In^{115} was used as indicator. The threshold energy for the excitation of the metastable state of In^{115} is 1070 ± 50 e. kv. This threshold energy equals the energy of the activation level. The isochromates ($h\nu$ = 1070 ± 50 e. kv.) for the Bremsstrahlung of electrons from thick-leaf Be and thin-leaf (8.9 mg./sq. cm.) gold targets were investigated in the region of energies between 1.04 and 1.8 m. e. v. For both targets the dependence of the intensity of monochromatic radiation on the energy of electrons agrees well with the Bethe-Heitler theory. The relative probability for the production of 1 quantum of x-rays in Be and Au targets varies as the squares of the at. nos. The general variation of isochromates, the zero value for the probability of emission of x-rays near the threshold energy, and the values for the relative probabilities of quants from Be and Au targets are at variance with the expts. of Collins and Waldman and also with Guth's theory. (Cf. *C. A.* 33, 2798[8], 5278[4]; 34, 4980[9]; 35, 2412[2]; 36, 2471[3].)

F. H. Rathmann

VAL'TER, A.K.

USSR/Electronics - Electron Optics H-3

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 12300

Author : Val'ter, A.K., Finkel'shteyn, V.Ye.
Inst :
Title : Use of the Similarity Method for the Investigation of the Motion of Large Beams of Charged Particles in High-Voltage Electrostatic Fields.

Orig Pub : Uch. zap. Khar'kovsk. un-ta, 1955, 64, 95-100

Abstract : A theoretical examination has been made of similitude conditions in electron optics, with allowance for the space charge and for the initial distribution by velocities for the case of ion beams that consist of one or several components (with different values of e/m). A similarity criterion is derived and the limits of the validity of the theory are examined. The authors indicate, that they have carried out experiments on simulation of high-voltage ion-optical systems, but do not mention the results of the experiments.

Card 1/1

VAL'TER, A. K.

USSR/Electricity - General Problems, G-1

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 34982

Author: Val'ter, A. K., Finkel'shteyn, V. Ye.

Institution: None

Title: On the Use of Electrostatic Analyzers as Absolute Voltmeters

Original Periodical: Uch. zap. Kuybyshevsk. un-t., 1955, 64, 101-102

Abstract: It is proposed to use as high-voltage voltmeters electrostatic analyzers in which the voltage is measured by the energy of the particles, accelerated in an accelerating tube. Such voltmeters, compared with the complex and expensive attraction voltmeters, which measure d-c voltages up to 500-600 kv with an accuracy to 0.1%, have the following advantages: (1) it is easy to estimate the error, which depends on the error of the parts that operate at low voltage; (2) the scale is linear (the unknown voltage is proportional to the measured difference of potential); (3) it is possible to measure not only d-c, but also a-c voltages -- their amplitude values -- from the maximum energy of the particles.

Card 1/1

Val'ter, A.K.

USSR/Nuclear Physics - Nuclear Reaction C-5

Abs Jour : Ref Zhur - Fizika, No 1, 1958, 509

Author : Deyneko, A.S., Taranov, A.Ya., Val'ter, A.K.
Inst : -
Title : Measurement of the Effective Cross Sections of the Reactions C^{12} (p, γ) and C^{12} (d, n) in the Region of Small Energies of Bombarding Particles.

Orig Pub : Zh. eksperim. i teor. fiziki, 1956, 32, No 2, 251-255

Abstract : An investigation is made of the reactions C^{12} (p, γ), N^{13} and C^{12} (d, n) N^{13} in the energy range of bombarding particles of 300 -- 400 kev. The β^+ activity of N^{13} was recorded with the aid of a vacuum tube electrometer. The resulting values of the yields of the reactions with thick targets in the investigated energy range are in good agreement with the course of the analogous curves at energies above 400 kev.

Card 1/1

VAL'TER, A.K.

C-5

USSR/Nuclear Physics

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 11238

Author : Klyucharev, A.P., Yesel'son, B.N., Val'ter, A.K.

Inst : Physical-Technical Institute, Academy of ~~Sciences~~, Ukrainian SSR

Title : Study of the Reaction Between He^3 and Deuterons.

Orig Pub : Dokl. AN SSSR, 1956, 109, No 4, 737-739

Abstract : The excitation function of the He^3 (d, p) He^4 was measured in the deuteron energy regions up to 1.5 Mev. The deuterons were accelerated by an electrostatic generator, the energy scale of which was calibrated by the resonant maxima of the excitation function of the F^{19} (p, $\alpha\gamma$) O^{16} reaction. A gas target with a window of aluminum foil approximately five microns thick was used, filled with helium at a pressure of 50 mm mercury, and containing 57.6% He^3.

Card 1/2

C-5

USSR/Nuclear Physics

Abs Jour : Ref Zhur - Fizika, No 5, 1957, 11238

To obtain energies below 450 kev, the deuterons were slowed down by aluminum foils. The overall error in the determination of the deuteron energy amounted to ± 30 kev in the region of the resonance of the excitation curve. The α particles were registered at an angle of 90° to the direction of the deuteron beam by means of a proportional counter with a mica window. The excitation function obtained has a resonant maximum at a deuteron energy of 435 kev, corresponding to the formation of an intermediate Li^5 nucleus in a state having an excitation energy of 16.8 Mev. The absolute cross section in the resonance is 63.4 ± 3.2 millibarns per steradian.

Card 2/2

VAL'TER, A. K.

WITH SOROKIN, P. V., and TARANOV, A. Ya., "Investigation of Polarization of Protons Elastic Scattered from C^{12},"

with DEYNEKO, A. S., and TARANOV, A. Ya., " Measurements of the Cross Sections of B^{10} (p, γ) and B^{10} (d, n) Reactions,"

with KLYUCHAREV, A. P., LUTSIK, V. A., and ZALYUBOVSKIY, I. I., "Gamma-Radiation Produced in Inelastic Scattering by Intermediate Weight Nuclei,"

with GAVRILOVSKIY, B. V., KARAD'YEV, K. V., MAN'KO, V. I., SOROKIN, P. V., TARANOV, A. Ya., "Polarization of Protons Scattered by O^{16} Spin and Parity of the 3,11 Mev Level of the F^{17} Nucleus,"

with ANTUFYEV, Yu. P., GONCHAR, V. Yu., KOPANETS, E. G., L'VOV, A. N. TZYTKO, S. P. and TUTAKIN, P. M., "Investigation of gamma-Radiation from the Si^{30} (p, γ) P^{31} Reaction,"

Physical Technical Inst, Acad. Sci. Ukr SSR

papers submitted at the A-U Conf. on Nuclear Reactions in Medium and Low Energy Physics, Moscow, 19-27 Nov 57.

VAL'TER A. K.

GONCHAR, V. Yu., LVOV, A. N., TUTAKIN, P. M., TZYTKO, S. P. AND A. K. Val'TER

(Phys. Tech. Inst. Acad. Sci. Ukr SSR)

"Polarization of γ Radiation from th Si^{30} $(p,\gamma)P^{31}$ Reaction,"

paper submitted at the All-Union Conf. on Nuclear Reactions in Medium and Low Energy Physics, Moscow, 19-27 Nov 57.

VAL'TER, A.K.

120-4-1/35

AUTHORS: Val'ter, A.K. and Tsygikalo, A.A.

TITLE: A 4 MV Vertical Electrostatic Generator of the FTI Ac.Sc. Ukrainian SSR (Vertikal'nyy elektrostaticheskiy generator FTI AN USSR na 4 MV)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1957, No.4, pp. 3-12 (USSR)

ABSTRACT: The 4 MV electrostatic generator of the Physico-technical Institute of the Ac.Sc. USSR was designed for nuclear work requiring an accurate knowledge of the energy of the accelerated particles (± 0.05%). The design was worked out in 1949-1950. The following requirements had to be satisfied: a) high degree of stabilisation of the voltage of the electrostatic generator; b) continuous variation of the energy of the accelerated particles; c) control of magnitude, form, and density of the beam current; d) best utilisation of the working time of the generator; e) safety and simplicity of servicing. To obtain both high resolution and the necessary ion current, two accelerating tubes were used. The beam accelerated in one of these is used for measurements and stabilisation, and the beam accelerated in the other is the "working" beam used to irradiate targets. Using the upper limit of resolution of the electrostatic

Cardl/2

A 4 MV Vertical Electrostatic Generator of the FTI Ac.Sc. Ukrainian SSR.

analyser under the first tube, and an electromagnetic analyser under the second tube, it is possible to obtain a beam from the latter tube whose strength is governed only by the current capabilities of the generator and the thermal stability of targets. Beam currents of up to 500 μA have been obtained. The generator works in compressed gas (20 atm.). The belt is 53 cm wide and moves with a speed of 20 m/sec. The charge is put on the inner side of the belt by four brushes working in parallel and supplied with 70 kV through a resistance of 4 Megohms. A cold cathode ion source is used in each tube. There are 20 figures and 9 references, of which 5 are Slavic.

ASSOCIATION: Physico-Technical Institute of the Ac.Sc.Ukrainian SSR (Fiziko-tekhnicheskiy institut AN USSR)

SUBMITTED: March 7, 1957.

AVAILABLE: Library of Congress

VALTER, A.K.

AUTHORS Tutakin P.M., Tsytko S.P., L'vov A.N., Valter A.K., Gonchar Yu.V. 89-10-16/36

TITLE The Polarization of γ-Radiation Occuring in the Reaction $Si^{30}(p,\gamma)P^{31}$. (Polyarizatsiya γ-izlucheniya, voznikayuzhchego v reaktsii $Si^{30}(p,\gamma)P^{31}$. - Russian)

PERIODICAL Atomnaya Energiya, 1957, Vol 3, Nr 1o, pp 336-338 (U.S.S.R.)

ABSTRACT The γ-radiation observed with the decay of the excited state with 8,2 MeV energy (J=3/2) in P^{31} into the ground state (J=1/2+) is distinctly polarized.
From the experimentally found angular distribution of the photo-protons there follows (R-1)= -0,51 or R=0,49.
The γ-transition 8,2 MeV belongs to the M_1-type and therefore the level must have 8,2 MeV, spin and parity 3/2 +.
The angular distribution of the 8,2 MeV -γ-transition has the form $\omega(\vartheta) \sim 1 - a_2 \cos^2 \vartheta$ with a_2= -0,34 $\pm$ 0,12, from which it follows that the 8,2 MeV must be a mixture of $M_1 + E_2$.
There are 3 figures and 1 Slavic reference.

SUBMITTED June 2o, 1957
AVAILABLE Library of Congress.
Card 1/1

VAL'TER, A K

AUTHOR DEYNEKO A.S., TARANOV A.Ya., VAL'TER A.K. PA .. 2668

TITLE Measurement of the $C^{12}(p,\gamma)$ and $C^{12}(d,n)$ Effective Cross Sections For Low Energy Bombarding Particles.
(Izmereniye effektivnykh poperechnykh secheniy reaktsiy $C^{12}(p,\gamma)$ i C^{12} (d,n) v oblasti malykh energiy bombardiruyushchikh chastits. - Russian)

PERIODICAL Zhurnal Eksperim. i Teoret.Fiziki, 1957, Vol 32, Nr 2, pp 251-255 (USSR)
Received 5/1957 Reviewed 6/1957

ABSTRACT It is the object of the present work to determine the effective cross sections of the reactions $C^{12}+H^1 \rightarrow N^{13}+Q(\gamma)$ (1) and $C^{12}+H^2 \rightarrow N^{13}+n+Q$.(2). When studying the reaction (1) it was of interest to compare the experimentally obtained effective cross sections with those obtained by means of the extrapolation formula.
Apparatus: Protons and Deuterons were accelerated by means of the electrostatic generator of the Physical-Technical Institute of the Academy of Science of the Ukrainian SSR. Tests were carried out on atomic and molecular bundles of hydrogen and deuterium. Experiments discussed here are based upon the quantitative determination of the β-active product accumulated in the target of the reaction. Thick targets of natural carbon were used. The experimental order is discussed on the basis of a drawing.
Measuring of Cross Sections: For the yield of the reactions investigated here a formula is given. Two diagrams illustrate the curves of the yields of both reactions. Here the ordinate axis is plotted on the yield, i.e. the number of positrons per particle which impinge on the target. The abscissa axis characterized the energy of the impinging particles in keV.

Card 1/2

Measurement of the $C^{12}(p\gamma)$ and $C^{12}(d,n)$ Effective Cross Sections PA-2668
For Low Energy Bombarding Particles.

The cross section was determined from the curves of the yield and is represented by the well-known formula $\sigma=(dy/dE)(dE/dx)/n$. Here dE/dx denotes the loss of energy of the bombarded particle in the target, y - the yield of the reaction, n - the yield curve. The cross section of the reaction $C^{12}(p,\gamma)$ amounts to $0{,}30.10^{-30}$ At 313 keV and at 358 keV increases to $6{,}4.10^{-30}$ cm^2. The cross section of the reaction $C^{12}(d,n)$ amounts to $0{,}8.10^{-28}$ cm^2 at 340 MeV.

ASSOCIATION Physical-Technical Institute of the Academy of Science of the Ukrainian SSR
PRESENTED BY
SUBMITTED 5.7.1956
AVAILABLE Library of Congress
Card 2/2

VALTER, A.K.

AUTHORS Sorokin, P.V., Valter, A.K., Gavrilovskiy, B.V., Karadzhev, K.V., Man'ko, V.I., Taranov, A.Ya. : 56-3-9/59

TITLE Polarization of Protons Scattered by O^{16}. Spin and Parity of the 3,11 MeV Level in the F^{17} Nucleus
(Polyarizatsiya protonov pri rasseyanii na O^{16}. Spin i chetnost' urovnya 3,11 MeV yadra F^{17}- Russian)

PERIODICAL Zhurnal Eksperim.i Teoret.Fiziki, 1957, Vol 33, Nr 3, pp 606-609 (USSR)

ABSTRACT The protons scattered elastically by O^{16} (initial energy from 2,6 to 2,8 MeV) were investigated with respect to their polarization. As a characteristic quantity P_{eff} to 0,80 $\pm$ 0,07 was found within the total energy domain. P_{eff} denotes the effective polarization value. Spin and parity were determined at 1/2 for the point of resonance of E_R = 2,66 MeV, which corresponds to an excited level of 3,11 MeV in an F^{17} -nucleus.
There are 3 figures, 1 table and 1 Slavic reference.

ASSOCIATION Physical-Technical Institute AN of the Ukrainian SSR (Fiziko-tekhnicheskiy institut Akademii nauk Ukrainskoy SSR).

SUBMITTED February 26, 1957
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Card 1/1

VALTER, A. K. , ZALYUBOVSKIY, I. I., KLYUCHAREV, A. P. and LUTSIK, V. A.

Les Niveaux d'energie des noyaux moyens.

report presented at the Intl. Congress for Nuclear Interactions Low Energy) and Nuclear Structure (Intl. Union Pure and Applied Physics.) Paris, 7-12 July 1958.

PASECHNIK, M.V., doktor fiz.-mat.nauk, otv.red.; VAL'TER, A.K., akademik, red.; NEMETS, O.F., kand.fiz.-mat.nauk, red.; REMENNIK, T.K., red.izd-va; RAKHLINA, N.P., tekhn.red.

[Transactions of a session of the Academy of Sciences of the Ukraine on the peaceful uses of atomic energy] Trudy sessii Akademii nauk USSR po mirnomu ispol'zovaniiu atomnoi energii. Kiev, 1958. 188 p. (MIRA 12:4)

1. Akademiya nauk USSR, Kiyev. Sessiya po mirnomu ispol'zovaniyu atomnoy energii. 2. Akademiya nauk USSR (for Val'ter).
(Atomic energy)

VAL'TER, A.K.

82134
S/058/60/000/02/05/023

21.2000

Translation from: Referativnyy zhurnal, Fizika, 1960, No. 2, p. 25, # 2734

AUTHORS: Val'ter, A. K., Tsygikalo, A. A.

TITLE: An Electrostatic 4-Mev Accelerator for Precision Nuclear Measurements

PERIODICAL: Tr. Sessii AS UkrSSR po mirn. ispol'zovaniyu atomn. energii. Kiyev, AS UkrSSR, 1958, pp. 24-34

TEXT: The design and the operation experience are described in detail of an experimental vertical electrostatic generator of FTI AS UkrSSR for an energy of 1.2-3.8 Mev. The generator is placed into a reservoir filled with compressed gas (a mixture of nitrogen and carbon dioxide under a pressure of up to 20 atm). The reservoir is 2.2 m in diameter and ~7.5 m long. The generator is loaded on two accelerating tubes with an operation vacuum (at the lower end) of (1.5-2).10-6 mm Hg. In sources of the Penning type (with a cold cathode) for a current of up to 70 μa are installed at each of the accelerating tubes. The beam from one accelerating tube is used for measuring the absolute energy by means of an electrostatic analyzer. The ion beam of the other tube is an operational beam and is directed, through a magnetic analyzer onto the target. The accuracy of the energy measuring

Card 1/2

82134
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An Electrostatic 4-Mev Accelerator for Precision Nuclear Measurements

is up to 0.05%.

ASSOCIATION: Fiz.-tekhn. in-t AN UkrSSR (Physico-Engineering Institute of AS UkrSSR)

V. G. Lopato

Card 2/2

SOV/58-59-12-26904

Translation from: Referativnyy zhurnal. Fizika, 1959, Nr 12, pp 57 - 58 (USSR)

AUTHORS: Val'ter, A.K., Yesel'son, B.N., Klyucharev, A.P.

TITLE: On the He^3 Reactions With Deuterons

PERIODICAL: Tr. Sessii AS UkrSSR po mirn. ispol'zovaniyu atomn. energii. Kiyev, AS UkrSSSR, 1958, pp 64 - 69

ABSTRACT: A report is given on the measurements made of the He^3 (d,p) He^4 reaction differential cross-section within the deuteron energy range of 100 to 1500 kev. The α -particles which escaped at a 90 degree angle to the direction of the deuteron beam, were registered. The relationship between the cross-section and the energy has a resonance with its maximum at $E_d \sim 435$ kev. The cross-section at maximum is equal to 63.4 mbarn/sterad.

V.P.R.

Card 1/1

SOV/58-59-12-26886

Translation from: Referativnyy zhurnal, Fizika, 1959, Nr 12, p 55 (USSR)

AUTHORS: Val'ter, A.K., Rossomakhina, N.Ya.

TITLE: On the Elastic Scattering of Neutrons From the Nuclei of Nickel, Copper, Lead, Bismuth and Uranium

PERIODICAL: Tr. Sessii AS UkrSSR po mirn. ispol'zovaniyu atomn. energii. Kiyev, AS UkrSSR, 1958, pp 80 - 83

ABSTRACT: The angular (within the 23° to 143° range) distribution of 2.6 Mev neutrons, elastically scattered from the nuclei of nickel, copper, lead, bismuth and uranium, was measured by using thick-layer nuclear emulsions. It has been established that in the case of all the investigated elements there is a main maximum at zero angle and an additional one in the large-angle range. It is pointed out that for light nuclei (computed on the basis of the optic model $R = 1.45 \cdot 10^{-13} \cdot A^{\frac{1}{3}}$) both ex-

Card 1/2

SOV/58-59-12-26886

On the Elastic Scattering of Neutrons From the Nuclei of Nickel, Copper, Lead, Bismuth and Uranium

perimental and theoretical values of the differential cross-sections agree satisfactorily; in the case of heavy nuclei, there is better agreement if the radius of the nucleus is taken to be equal to $1.37 \cdot 10^{-13} \cdot A^{\frac{1}{3}}$.

I.P. Sadikov

Card 2/2

VAL'TER, A.K., akademik

Electrostatic generators. Nauka i zhyttia 8 no.10:9-12 '58.
(MIRA 13:4)

1. AN USSR, Khar'kov.
(Electric machines)

AUTHORS: Val'ter, A. K., Malakhov, I. Ya., Sorokin, P. V., Taranov, A. Ya. SOV/48-22-7-22/26

TITLE: Elastic Scattering of Protons on Si^{28} Nuclei. Spin and Parity of the Levels of 4,31 and 4,73 MeV of the P^{29} Nucleus (Uprugoye rasseyaniye protonov yadrami Si^{28}. Spin i chetnost' urovney 4,31 i 4,73 MeV yadra P^{29})

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya fizicheskaya, 1958, Vol. 22, Nr 7, pp. 871 - 876 (USSR)

ABSTRACT: The scattering cross-section of the reaction p - Si^{28} was measured in order to establish the characteristics of the excited states of the P^{29} nucleus. These states are connected with the resonance mentioned in reference 1. The method of measurement is described first. The proton beam was accelerated in the electrostatic generator of the Physical-Technical Institute of the AS Ukr SSSR. It is deflected by 90° by a magnetic analyzer. It then passes through a system of collimating diaphragms with a diameter of 2 mm and strikes a silicon target. From the qualitative analysis it is ascertained, that the level of 4,31 MeV can have a spin and a parity of $3/2^-$ or $1/2^-$. The

Card 1/3

determination of the spin and the parity for the level of $1/2^+$ with 4,73 MeV is beyond doubt. For a final determination of the spin of the 4,31 level the computed curves were compared with the experimental results. In order to compute the scattering cross-section of the reaction p - Si^{28} in the range from 1,6 to 2,2 MeV data from reference 5 were used. The cross-section was computed according to formulae (1), (2) and (3) without assuming a dependence of the phases on the energy. The maximum divergence between the experimental points and the computed curves did not exceed 25%. As a summary it is stated, that the resonance half-widths found experimentally, 50 and 14 keV, differ considerably from the values found in reference 1, 60 and 25 keV. The results of the phase analysis are exposed. The ratio of the given level-widths and the quantity

$\frac{3\hbar^2}{2ma}$ shows that the level of 4,31 MeV apparently is a single-stage level whereas the 4,73 MeV level is connected with a much more complicated mechanism of excitation. The evidence

Elastic Scattering of Protons on Si^{28} Nuclei. Spin and Parity of the Levels of 4,31 and 4,73 MeV of the P^{29} Nucleus SOV/48-22-7-22/26

concerning the spins and parities of these levels substantiate the preliminary experimental results of proton polarization in an elastic scattering of p on Si^{28}. There are 9 figures, 1 table, and 5 references, 0 of which is Soviet.

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk USSR (Physical and Technical Institute, AS Ukr SSR)

Card 3/3

SOV/56-35-6-10/44

21(0),24(5)
AUTHORS: Taranov, A. Ya., Sorokin, P. V., Val'ter, A. K., Malakhov, I. Ya.

TITLE: The Polarization of Protons Elastically Scattered on Si^{28} Nuclei (Polyarizatsiya protonov, uprugo rasseyannykh yadrami Si^{28})

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol 35, Nr 6, pp 1386-1390 (USSR)

ABSTRACT: In the introduction, some papers dealing with p-Si^{28} scattering are discussed in short and some results are mentioned. (Ref 1: Scattering cross section at E_p = 1.65 and 2.09 Mev (resonance), with breadths of ~60 and ~25 kev, broad resonance also at 2.9 Mev; Ref 2 (Val'ter et al.): Measurements of elastic scattering cross sections at E_p = 1.5 to 3.1 Mev, results in table 1; Ref 3: Survey of spin and parity of the 4.31 Mev level, in agreement with the results of Ref 2). The next paragraph of this paper deals theoretically with the calculation of the polarization $\vec{P} = P(\theta,E)\vec{n}$, $\vec{n} = [\vec{k}\vec{k}_0]/|[\vec{k}\vec{k}_0]|$, according to formulae given in references 4 and 5. In the following chapter the results obtained by polarization measurements are published. Apparatus and method are described by

Card 1/3

The Polarization of Protons Elastically Scattered on Si^{28} Nuclei

references 6 and 7. The experiments were carried out on the electrostatic generator of the FTI AN USSR (Physico-Technical Institute, AS UkrSSR). Results are given by table 2, viz. for the scattering angles θ (in the center of mass system) of 60 and 90° for the following E_p-values: 1.7, 1.75, 1.8, 1.85, 2.0, 2.05, 2.10, 2.15. The experimentally determined polarization values agree with calculated values (which are also given by this table) within the error limits. The functions $P(E_p)$ are given in form of diagrams in figure 1 (for $\theta = 60^{\circ}$) and in figure 2 (for $\theta = 90^{\circ}$); a second ordinate shows the corresponding cross sections $\sigma(E_p)$, which were obtained as the results of a phase shift analysis. Two fully analogous diagrams are shown by figures 3 and 4, viz. for $\theta = 125^{\circ}$ and 150° respectively. There follows a short discussion of results. There are 4 figures, 2 tables, and 7 references, 3 of which are Soviet.

Card 2/3

SOV/56-35-6-10/44

The Polarization of Protons Elastically Scattered on Si^{28} Nuclei

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk Ukrainskoy SSR (Physico-Technical Institute of the Academy of Sciences, Ukrainskaya SSR)

SUBMITTED: July 5, 1958

Card 3/3

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Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 7, pp 32 - 33 (USSR)

AUTHORS: Sorokin, P.V., Val'ter, A.K., Taranov, A.Ya.

TITLE: Measurement of Proton Polarization by Means of a Helium Analyzer

PERIODICAL: Uch. zap. Khar'kovsk. un-t, 1958, Vol 98, Tr. Fiz. otd. fiz.-matem. fak., Vol 7, pp 119 - 135

ABSTRACT: The authors describe the development of an instrument for measuring the polarization of protons that have been elastically scattered by nuclei. The instrument consists of a scattering chamber and a helium analyzer. Owing to its large "aperture ratio", the instrument can be utilized to measure the polarization of low-intensity beams (10^4 protons/sec). Experiments in double proton-He^4 scattering, as well as measurements of the polarization of protons elastically scattered by C^{12} nuclei, have shown that the instrument permits the measurement of polarization degrees in excess of 3 to 5% for protons resulting from reactions with a cross section of 10^{-25} cm^2 . $sterad^{-1}$. The reactions in question occur in targets containing 10^{19} $nuclei/cm^2$ at a primary current of 1 μ amp.

The authors' résumé

Card 1/1

SOV/58-59-8-17415

Translated from: Referativnyy Zhurnal Fizika, 1959, Nr 8, p 67 (USSR)

AUTHORS: Val'ter, A.K., Klyucharev, A.P., Krivets, G.Ye., Samsonov, V.M.

TITLE: Nuclear Reactions Under the Bombardment of Beryllium With He^3

PERIODICAL: Uch. zap. Khar'kovsk. un-t, 1958, Vol 98, Tr. fiz. otd. fiz.-matem. fak., Nr 7, pp 145-151

ABSTRACT: This article investigates the nuclear reactions which take place during the bombardment of beryllium with the nuclei of He^3 at 1.5 Mev energy. A beam of He^{3+} ions, accelerated by means of an electrostatic generator, struck a beryllium target 0.5 μ thick which had been applied to a platinum backing. The products of the reactions were registered on a photographic plate with an emulsion 200 μ thick, which was inclined in such a fashion that it was struck by particles flying out at an angle of 90^o to the beam of He^3 ions. The spectrogram obtained on the film was plotted by 1,790 tracks. It consisted of a continuous spectrum and a discrete spectrum, consisting of five groups. Several maxima are clearly exhibited on the continuous spectrum. In order to interpret them, emulsions were used which permitted the separation of the α -particles from the

Card 1/2

SOV/58-59-8-17415

Nuclear Reactions Under the Bombardment of Beryllium With He^3

protons. It was established in the results that in the case of 1.5 Mev ions of He^3 (which corresponds to the excitation energy of a 26 Mev intermediate nucleus), the protons from a Be^9 (He^3, p) B^{11} reaction correspond to B^{11} levels of 0, 2.1, 4.4, 5.0, 6.7, 7.3, 8.0, 8.5, 8.9 and 9.2 Mev. It is shown that a reaction takes place with an emission of α-particles possessing a maximum energy of 19 Mev, which corresponds to both a Be^9 (He^3,α) Be^8 and a $Be^9 + He^3 \rightarrow 3He^4$ reaction. It was not possible to draw any quantitative conclusions concerning the contribution of the individual reactions.

V.I. Man'ko

Card 2/2